

REMARKS

The Specification has been amended on page 5 to correct the references to the condenser.

Claims 2-5 are pending.

Claim 2 has been amended to state that one of either R508A or R508B is present in the composition, and that R125, R508A or R508B, and R14 are each of substantially the same weight percentage in the composition. Claim 3 has been amended to be consistent with claim 2, that is, so that the upper and lower ends of the ranges of the three components of the composition are the same.

The claims also have been amended by adding claim 6 so that claim 5 does not refer to a multiple dependent claim. Claims 7 and 8, which depend from claim 2, have also been added.

Claims 2 and 4 are rejected as being anticipated by Singh, et al., WO 02/26913 A2, and claims 2-4 also are rejected as being unpatentable over Singh.

The Specification, at page 5, lines 18-26, sets forth the preferred refrigerant compositions as R246fa being 37.4 wt%, R125 being 21.6 wt%, R508A or R508B being 19.8 wt% and R14 being 21.2 wt%. Therefore, there is support for the amendment to claim 2 since:

R125 = 21.6 wt% and

R508A or R508B = 19.8 wt% and

R14 = 21.2 wt%

which are substantially equal wt%.

The novel composition as set forth in each of claims 2 or 4 has decided advantages. By using the claimed substantially equal wt% of R125, R508A or R508B and R14 the heat amount of the condensation and evaporation of the refrigerants becomes almost the same. In the specific refrigerant circuit as disclosed in the application, the R125, R508A or R508B and R14 are condensed and evaporate in the second intermediate heat exchanger 13, the third intermediate heat exchanger 15 and the evaporator 17. Therefore, heat exchange effect in the intermediate heat exchanger becomes stable.

The cited reference to Singh neither teaches nor discloses the novel compositions.

In applying Singh, the Examiner refers to page 11, lines 5-9. This is a teaching of using any one of the approximately 100 or more refrigerants as set forth in Tables I, II and IV, together with one of the solubilizing agents of Table II. The rejection of amended claim 2 based on Singh is clearly inappropriate unless the Examiner can point out a portion of this reference that gives a clear teaching of the specific novel refrigerant composition as set forth in claim 2. Therefore, claims 2 and 4 are neither anticipated by nor obvious over Singh. Accordingly, claims 2 and 4 are clearly patentable over Singh and should be allowed.

Claims 2-4 are rejected over Yuzawa, EP 1 136 540 A1 in view of Singh and Lund, et al., U.S. 5,866,029.

Yuzawa is prior art to the present application, and in this reference, R500 is 93g, R125 is 60g, R508 is 60g and R14 is 69g. As seen, R14 is of substantially greater wt% than R125 and R508. Also, the use of R500 results in a different composition from that set forth in claim 2.

Singh is relied on for teaching the use of R245fa. There is no basis or suggestion in Yuzawa to use R245fa in his composition. Further, even if the combination of the references is improperly made, it does not teach the novel and advantageous subject matter of claim 2.

In rejecting claim 4, which depends from claim 2 and recites the addition of n-pentane to the composition of claim 2, the Examiner relies on Singh which, in his extensive tables of refrigerants, lists n-pentane. Again, the combination of this reference with Yuzawa is improper and, even if made, does not teach the novel subject matter of claim 4. The Lund patent also is relied on for teaching the use of n-pentane. The same comments apply here. Accordingly, claims 2 and 4 are clearly patentable over the combination of references and should be allowed.

Claim 5 has been amended to recite the refrigerant circuit using the refrigerant of claim 2 in a manner that emphasizes how the refrigerant interacts with the various parts of the refrigerant circuit. The advantage of using the claimed composition in this refrigeration circuit is explained above. Accordingly, claim 5 also should now be allowable.

Claims 6-8 have been added. Claim 6 is the portion of previously multiple dependent claim 4 that recited claim 3. New claim 7 depends from claim 2 and recites that the wt% of R125, R508A or R508B and R14 compositions are within 10% of each other. Claim 8 depends from claim 2 and recites specific wt% amounts. These claims, which depend from claim 2, also should be allowable.

The other art cited has been considered and is not deemed pertinent.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Prompt and favorable action is requested.

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Respectfully submitted,

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